

organic and its consumption in both cases is attended by a true respiration. A better statement would be that plants, in general, have the power of making their own food, while animals, in general, do not. We recognize that the agent in this case is the granule of protoplasm colored by chlorophyll, just as in the consumption of the prepared food the activity is vested in uncolored protoplasm. The presence therefore of chlorophyll granules lies at the very basis of this distinction between plants and animals. It is generally stated that this does not hold universally, as the fungi are devoid of chlorophyll and some animals are known to possess it. The question has now arisen, whether the so-called animal chlorophyll is the same as that of the plant. The results of some investigations upon this subject are given by K. Brandt in the *Popular Science Monthly* for October. The investigations seem to show that morphologically the animal chlorophyll is by no means the same as the plant, for the green bodies which appear in some animals are themselves cells rather than cell-contents, and are nothing else than unicellular plants which have immigrated to animal bodies. They are both morphologically and physiologically distinct from their hosts, for they can live when separated from them and form starch in the sunlight. Thus the distinction is based on the same principle as before, namely the power of originating, for now we can say not only that plants make their own food and animals do not, but also that plants make their own chlorophyll, while animals do not. But a strange revelation is the relation which these green algae and other yellow algae sustain to the animals in which they live. When they are absent the host animal must live like other animals, but when they are present they can prepare food for their host out of inorganic material and the animal can live with the surroundings of a plant. This partnership arrangement between animals and plants upon the lowest confines of the two kingdoms may not seem unlikely now that it is suggested and reminds one of the sentence in Dr. Gray's *Darwiniana*, which says that "there is a limbo filled with organisms which never rise high enough in the scale to be manifestly either animal or plant, unless it may be said of some of them that they are each in turn and neither long." Chlorophyll thus holds the same relation to the bodies of animals which it inhabits as it does to plants, and although in the two cases it is morphologically distinct, it is physiologically the same.—J. M. C.

Epipactis Helleborine.—It may be of interest to you and the readers of the GAZETTE to learn that *Epipactis Helleborine* (the orchid, new to America, which was found near Syracuse, in 1879) has been discovered growing in considerable quantity on the wooded slope of Scajaquady's Creek, in the northerly portion of this city. The plant has been submitted to Gray, who while pronouncing it identical with the Syracuse plant, declares that he can discover no valid distinction between it and *Epipactis latifolia*. Perhaps 200 individuals were noticed.—DAVID F. DAY, Buffalo, N. Y.